

gated, terminal joint deeply on dorsal and lateral parts; head rounded. Color, chestnut brown, as usual coated with a white powder. Puparium a slight lining to the leaves that were fastened together with silk.

The larva pupated May 17th, and the imago appeared June 20th, giving a pupal period of about a month, which is about the same as the other species that have been bred. One feature of the species is that the larva has no lateral fringe. As given before, the food plant is Honey Locust.

May 12th, another larva was found that differs from the above description only in being darker, and as a natural result the stripes more distinct, the light stripes having an orange tint. After this two more were found, one of which had all the light stripes quite distinctly orange tinted. The head was reddish purple striped with numerous white lines, or rather broken lines. Like the other, the venter had the black only on the joints bearing legs. This one had passed the last moult when found, and produced the imago June 17th, showing that keeping the first in confinement had not materially interfered with its time of pupating or its other changes.

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## ON THE CHALCIDEOUS TRIBE CHIROPACHIDES.

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Below I give an analytical table for recognizing the genera in the tribe *Chiropachides* Thomson. It will be seen that I have placed in this group the genus *Schizonotus* Ratzburg, which Dr. Arnold Foerster, in his Hymenopterologische Studien (1856), says is identical with *Seladerma* Walker, an opinion in which I cannot concur, my type of *Schizonotus Siebaldi* Ratz. not agreeing at all with Walker's definition; also the genera *Mesopolobus* and *Platymesopus* Westwood, which were subpressed by Walker and other authorities, and placed in the genus *Pteromalus*; they agree in all essential characters with this group, the anterior femora being very similar to *Chiropachys*, the type of the tribe.

Two new genera will be found characterized in this group, the characters of which, as given in the table, being sufficient, it is hoped, to enable them to be easily recognized.

The arrangement proposed is as follows :—

Tribe *Chiropachides* Thomson:

TABLE OF GENERA.

Posterior tibiæ with one spur . . . . .	3
Posterior tibiæ with two spurs.	
Eyes not hairy . . . . .	2
Eyes hairy.	
Abdomen sessile, long pointed ovate, marginal and postmarginal veins somewhat thick, the latter being longer than the marginal ; stigmal vein short, one-third the length of the marginal ; sculpture coarsely pitted . . . . .	<i>G. 1, Dasyglenes</i> n. g.
2. Collar transverse quadrate, separated from the mesothorax by a deep incision at the posterior angle ; pedicel of antennæ lengthened, funicular joints much broader than long, the club obliquely truncate from below . . . . .	<i>G. 2, Schizonotus</i> Ratzburg
Collar not so formed.	
Collar transverse, rounded before, narrowed in the middle.	
Anterior femora exciso-dentate ; wings with two transverse bands . . . . .	<i>G. 3, Chiropachys</i> Westwood.
Anterior femora simple ; wings with one transverse band . . . . .	<i>G. 4, Acrocormus</i> Förster.
3. Abdomen petiolated . . . . .	6
Abdomen sessile, long or pointed ovate.	
Marginal vein of anterior wings not thickened . . . . .	5
Marginal vein of anterior wings thickened.	
Antennæ with transverse ring-joints . . . . .	4
Antennæ with ring-joints large not transverse.	
Marginal vein but slightly longer than the stigmal . . . . .	<i>G. 5, Pandelus</i> Förster.
4. Stigmal vein and postmarginal vein short . . . . .	<i>G. 6, Metacolus</i> Förster.
Stigmal vein longer than the marginal ; ♀ with the antennal joint stylate at the apex . . . . .	<i>G. 7, Raphitelus</i> Walker.
5. Parapsides only indicated anteriorly ; anterior margin of collar sharp.	
Stigmal club very large . . . . .	<i>G. 8, Dinotus</i> Förster.
Stigmal club small or moderate.	

\* ♀ With marginal vein at least thrice as long as stigmal; funicular joints broader than long; middle tibiæ in ♂ with a small hirsute lobe, outwardly near tip . . . . . *G. 9, Mesopolobus* Westwood.

\*\* ♀ With marginal vein not twice as long as stigmal; anterior tibiæ flat; middle tibiæ in ♂ broadly dilated, foliaceous . . . . .  
 . . . . . *G. 10, Platymesopus* Westwood.

6. Collar rounded before; mesothorax lengthened with three keels. Marginal vein more than twice longer than the stigmal; parapsides indicated anteriorly . . . . . *G. 11, Rhopalicus* Förster.

Marginal vein but slightly longer than the stigmal; parapsides complete . . . . . *G. 12, Brachycrepis* n. g.

*Dasyglenes* n. g.

♀ Whole surface, including the abdomen, very coarsely reticulato-punctate, and sparsely covered with a pale pubescence. Head large, slightly broader than the thorax with deep antennal grooves, the grooves converging and meeting at apex. Antennæ inserted slightly above the clypeus, the latter with a sinus in the middle. Eyes hairy. Collar transverse, contracted and produced anteriorly into a short neck, the neck with a delicate medium carina. Mesothoracic parapsides delicate but complete. Scutellum convex, as broad as long, slightly prolonged over the metathorax and ending in a slight projecting ridge at the apex. Metathorax short, with a delicate medium keel. Abdomen sessile, much longer than the head and thorax together, acuminate, the tip projecting slightly beyond the wings when folded. All femora swollen, the fore pair much more so than the middle pair; the tibiæ are very long, the three basal joints of which are as long as their tibiæ; the middle and posterior tibiæ longer than their femora, and the tarsi not nearly as long as their respective tibia; the posterior tibiæ are armed with two strong, divergent apical spurs. The submarginal vein, of anterior wings, is one and a-half times as long as the marginal, the marginal and postmarginal veins thick, the latter much lengthened, gradually acuminate, ending at the rounded edge of the apical margin of wing; stigmal vein short, about one-third the length of marginal, slightly bent, the stigma small and slightly emarginated at the apex. ♂ Unknown.

*Dasyglenes osmia* n. sp.

♀ Length .25 inch. Cyanaceous, coarsely pitted, pubescent. Flagellum of antennæ brown. Legs dark red, pubescent; femora infuscated. Wings

hyaline, veins brown; the whole surface is covered with a fine brownish pubescence. Described from one ♀ specimen reared from a bee, *Osmia* species, living in *Catalpa* twigs.

This genus shows strong affinities with *Cleonymus* Latreille and *Aetroxys* Westwood, but is readily distinguished from both by the thickened fore femora; had it not been for this character I should have placed it in the genus *Cleonymus*.

\* *Chiropachys* Westwood.

*Chiropachys colou* Linn., Faun. So. Ed., ii., p. 413; *C. quadrum* Walk., Ent. Mag., iv., p. 14; *Pteromalus bimaculatus* Swederus.

This common European chalcid must now be added to our fauna, specimens having been taken in the United States that cannot be separated from types received from Europe.

The species described by Mr. Edward Norton as *Chiropachys nigrocyaneus*, Trans. Am. Ent. Soc., ii., p. 327, is not a *Chiropachys*, but belongs to the genus *Pachyneuron* in the tribe *Sphegigastrides*.

*Dinotus* Förster.

*Dinotus elongatus* n. sp.

♀ Length .13 inch. Dull metallic brown, confluent punctate, sparsely covered with white hairs. Head much wider than the thorax, the width of the vertex nearly twice the length of the eye. Ocelli red, Eyes ovate, brown. Antennæ 13-jointed, filiform, pubescent, the long slender scape, pedicel and the two ring-joints, honey-yellow; flagellum brown, the first funicular joint the longest, following joints slightly subequal; the club short, three-jointed, slightly thicker than the funicle, and not longer than the first funicular joint. Collar very short, transverse; parapsides only indicated anteriorly. Metathorax not very long, not keeled; metathoracic spiracles long oval; metapleura slightly pubescent. Coxæ smooth, bluish-green, with tufts of white hair anteriorly. Legs honey-yellow, excepting the femora which are brownish in the middle. Abdomen sessile, pointed ovate, one-third longer than head and thorax combined, concave above, and of a dull greenish metallic lustre, each segment laterally with some short hairs. Wings hyaline, sparsely pubescent; veins yellowish, the marginal hardly twice the length of the stigmal, the latter terminating in a slight knob, while the postmarginal is slightly shorter than the marginal. Described from one specimen captured at large.

*Brachycrepis* n. g.

This genus is very similar to *Rhopalicus* Förster, but the prolonged metathorax has three distinct keels, the abdomen has a short rugose petiole, the marginal vein of the front wings is but slightly longer than the stigmal and the parapsides complete. The anterior femora are very much swollen; the antennæ are subclavate, 13-jointed with two ring joints, and are inserted slightly below the middle of the face; the pedicel is about as long as the first funicular joint.

*Brachycrepis tricarinatus* n. sp.

♀ Length .13 inch. Dark blue with a slight metallic tinge on the head and thorax, confluent punctured. Eyes dark brown. Antennæ 13-jointed, black, except the scape beneath, which is brownish-yellow; flagellum pubescent; the first funicular joint the longest, the others slightly subequal, but gradually growing wider toward the club, the fifth and sixth joints being wider than long. Collar transverse, narrowed in the middle. Mesothoracic grooves distinct, but very delicate as they approach the scutellum. Coxæ, femora and tibiæ, excepting their tips and the last tarsal joint, blue-black; tips and the other tarsal joints, honey-yellow. Abdomen long ovate, about the length of the thorax, blue-black with a very slight metallic tinge near the base beneath. The second segment, counting the petiole as the first, is the largest, the others gradually subequal; each segment with a single row of delicate white hairs. Wings hyaline; veins pale brownish, the submarginal vein as long as the marginal and postmarginal together, delicate, the marginal is but slightly longer than the stigmal, the latter clavate with a slight uncus.

Hab.—Riley Co., Kansas. Prof. E. A. Popenoe.

## CAN INSECTS DISTINGUISH BETWEEN RED AND YELLOW?

BY T. D. A. COCKERELL, WEST CLIFF, COLORADO.

In this neighborhood (Custer Co., Colorado,) one very frequently finds a yellow spider of the genus *Thomisus* or allied thereto, seated in the middle of the umbels of *Ligusticum montanum* Benth. and Hook., and on other yellow flowers. This spider, so seated, has nothing to cover it from direct observation, and from its size and colour would be conspicuous enough elsewhere; but on the yellow flower, sitting in the depression in